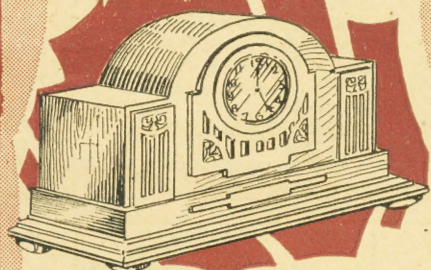


Hobbies

WEEKLY



**CLOCK CASE
DESIGN
FREE!**

*More Electric
Traffic Signal
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February 9th. 1935

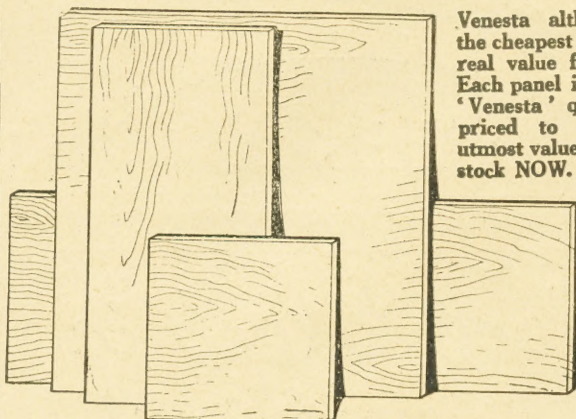
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Vol. 79. No. 2051

**THE FRETWORKER'S AND
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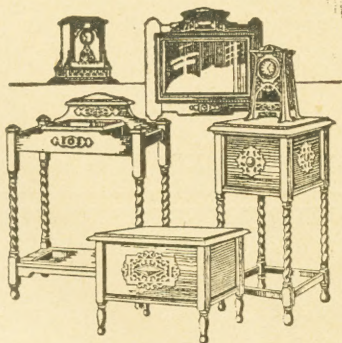
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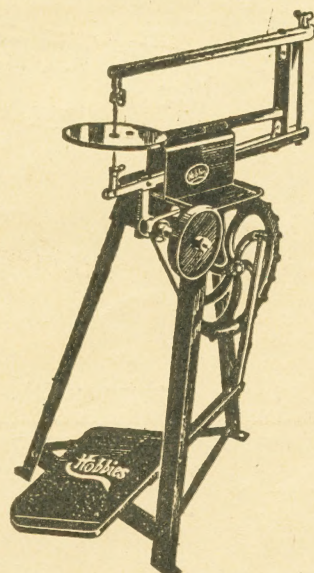
Did you ever see such a bargain? A woodwork treadle fretsaw for 25/-! Think of the things you can make and sell—of the profit such a machine will bring. There is nothing cheap or shoddy about it. It will stand up to any amount of cutting. Suitable for wood up to 1 1/2in. thick, composition, sheet metals, etc. Speedy, silent, swift. Sent carriage forward in a crate ready to use.



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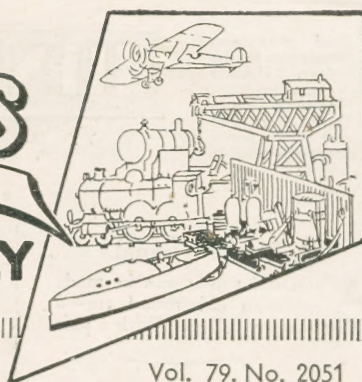
HOBBIES GEM FRET MACHINE





Hobbies

WEEKLY



February 9th. 1935

Letters should be addressed to
The Editor, Hobbies Weekly,
Dereham, Norfolk.

Vol. 79. No. 2051

A NUMBER of readers write to me from time to time for particulars how they can dispose and sell the result of their labours. I am greatly pleased, therefore, to have an article in this issue from a reader who gives a number of helpful details of the way he has been able to turn his spare time into profit. Everyone should make a note of his methods and prove for themselves that there is money in fretsaw work. It may be model making, toy making, inlay work, furniture or ordinary fretwork, but it can be made one of the most profitable hobbies you can have.

THE picture this week offers another suggestion. Have you ever been a builder? A builder of model homes and houses like the one shown. Many architects, estate agents and auctioneers would probably be glad to give you orders to build models of new houses they are putting up. The one illustrated was made by a Westcliff hobbyite who included an ingenious mechanical movement where the workmen ascend and descend the ladder in realistic manner. This particular model is of three houses with over 5,000 hand-made tiles upon them. You can see the tiler laying them.

IT is worth remembering that back numbers of Hobbies Weekly are always obtainable from us, and if you have designs which you want to make up you should certainly have the issue at hand which gives you full instructions how to do it. The publication number of the Hobbies is the same as on the design, but, of course, the design

sheet itself is not given away with these back numbers. Any copy of Hobbies Weekly is obtainable for 3d. post free.

WHAT do you do with spent matches? Throw them away usually. But I know a very thrifty reader who saves them! Not to use to light a fire with, or anything of that sort but to make models with! He actually made a model of H.M.S. Victory and offered it to the Duke and Duchess of Kent as a wedding present. That used up 2,120 matches and took three weeks to make. This skilful and unusual modeller is Mr. Norman Bridgford of Sale, Cheshire, who has also made models of Stephenson's "Rocket" and H.M.S. Britannic.

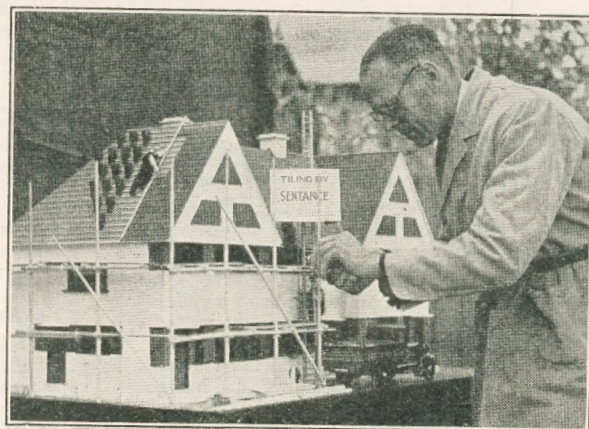
NOTES of the WEEK

A Reader's Money-making
Methods — Modern Housing
Models — Back Numbers —
"Victory" in Matches —
Workers Wanted.

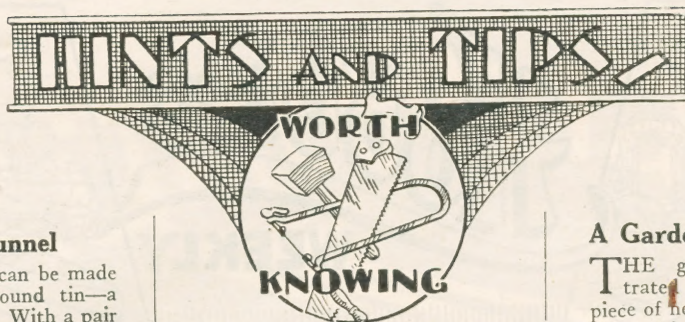
I WANT to keep a complete register of readers who are prepared to undertake work in their own home, because I occasionally get requests from people who cannot make the models, or piece of fretwork themselves, but want it done by a reader. If, therefore, you are able and willing to undertake jobs of this kind, please let me know. Then I can keep a list and write you should occasion arise. I cannot, definitely, put readers in

touch with people now, but I want to keep a register handy. In writing please state if you can make toys or models or fretwork or all of them, and how long you have been at it. Because, of course, I must be sure that you will be capable to undertake a job if a customer comes along.

The Editor



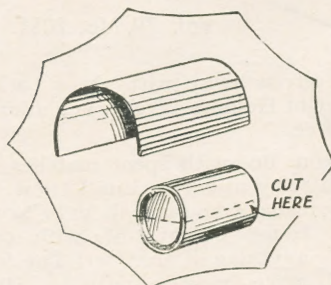
Send your own simple tips to The Editor, Hobbies Weekly, Dereham, Norfolk. Keep them short and add rough pencil sketches if possible.



For original Tips published the sender will receive one of Hobbies Self-filling Fountain Pens. We cannot acknowledge or print all tips sent in.

A Model Tunnel

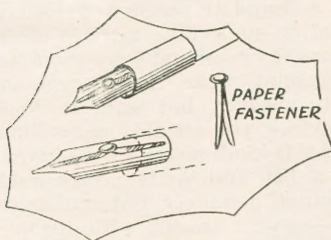
A MODEL tunnel can be made from an old round tin—a paint tin is excellent. With a pair



of cutters, cut away the bottom and one half. The edges must be bent in, or they may cut your fingers. Paint it with enamel bright colours to give a realistic effect.

A Pen Dodge

BY simply inserting a paper fastener between the nib and holder of an ordinary pen, an efficient fountain pen can be made as shown in the picture. On



dipping the pen in the ink a reservoir is formed between the fastener and the nib, and one is enabled to carry on writing for quite a long time without having to dip in the ink bottle repeatedly.

Plugging Mouse Holes

THE best way to plug a mouse hole is to get a small piece of plasticine and flatten it out. Roll a piece of paper, putting the plasticine round it, then force it into the hole and varnish over. Mice will not venture near plasticine.

An Electric Gun

ALL you require for this gun is a small tube of copper or brass, and some 28-gauge copper wire. This must be insulated. Take the tube and wind the wire on to it carefully. Wind backwards and forwards twice, making four layers of wire. Now connect one end to a terminal of a pocket-lamp battery. Place an iron pin in the barrel. Flick the loose end of the wire on the other terminal. To ensure the "bullet" going from the tube do not keep the wire on the terminal, or else the pin will be held by magnetism.

To Clean Paint

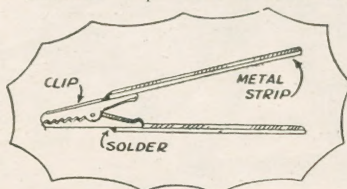
TAKE a small quantity of whiting on a damp flannel, rub lightly over the surface, and rinse with clear water. You will be surprised at the effects.

Felt-cutting made Easy

HOW many readers who, on attempting to cover their workshops, etc. with felt, have found it very difficult material to cut? If a thin stream of oil is run along the part intended to be cut, it will prevent the mastic in the felt from sticking to the knife, and so simplify the cutting. The felt should be cut through the oil.

A Fishing Tip

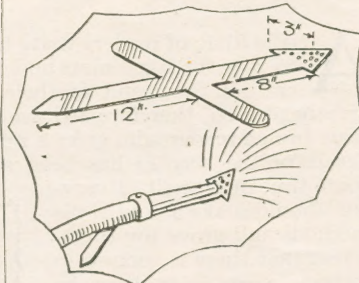
HERE is a little gadget that will be found useful to those who are keen on fishing. Obtain a crocodile clip from a wireless



shop, and prolong its two handles by soldering two thin strips of metal to it. The finished product may be painted; and will be found useful for disgorging fish-hook, picking up small artificial flies, etc.

A Garden Hose Sprinkler

THE garden sprinkler, illustrated here, is made from a piece of heavy sheet tin and costs about 6d. The metal can be cut with a fretsaw and the arrowhead



is perforated with holes to allow the water more spray. The sprinkler is affixed to the hose by the protruding strips being turned over, whilst the back strip is bent downwards at an angle to provide a support in the ground.

To Deaden a Cyclometer

WE are all acquainted with the valve tubing method of stopping the irritating tick of a cyclometer striker, and those who have tried it also know its short life. A much more lasting deadener is made by winding a little cotton round the business end of the striker and putting a blob of rubber solution on to the cotton foundation. This is very effective and lasting.

For Sign Writing

USEFUL substitutes for pens for amateur signwriters which do the work neater can be made from scraps of Hobbies 1/16in. wood. Use a close grained soft wood, which can be pared to a chisel edge without breaking. You can make them in many widths and have a real set for different width lettering. Be sure to keep them sharp edged and level like a wood chisel.

Starch in Distemper

WHEN using distemper a good plan is to mix in a little starch, which gives it a paint-like appearance when finished.

WORKING ELECTRIC STREET SIGN AND LAMP

IN conjunction with the electric automatic traffic signal model—a special feature in our issue dated December 22nd last—we illustrate herewith two additional traffic accessories; and these, although of a varying nature, will doubtless prove as popular and interesting to all model-making enthusiasts for inclusion in their miniature towns, villages, etc., etc.

As a Nightlight

Both these articles, of course, were designed and intended mainly as working models. In respect to the Lamp Post model, however, this could also be incorporated as a novel nightlight for a child's bed table.

The model suggests itself as being unusually attractive and appreciated as such, and even more so, when it is understood that the subdued illumination radiates an extremely realistic effect that is comforting in the darkness.

Plywood v. Fretwood

On the centre page spread will be found all the necessary patterns, including minor details for building each model. These are all full size, and should be pasted or copied down to plywood boards the thickness as quoted on each part.

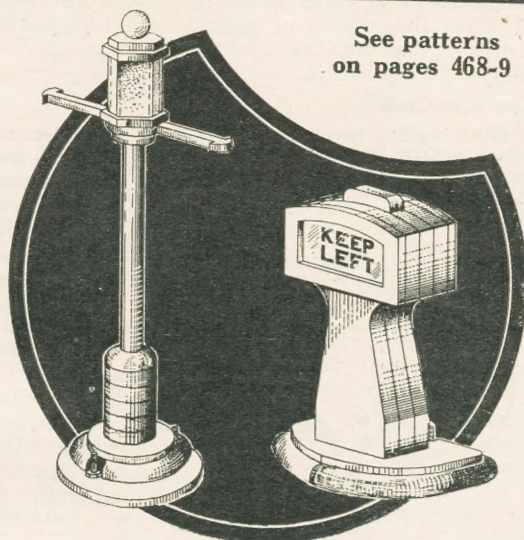
It is suggested that plywood is used throughout and not fretwood, as the latter material—owing to the narrowness of some of the fretted parts—is more liable to split when nailed together. Of course, fretwood could certainly be used without fear of mishap, if all the tiny nail holes are first neatly and carefully drilled.

Materials Required

In regard to the essential materials required in the construction, Hobbies Ltd. have arranged to supply a Parcel (No. T.M. 276) containing the wood mentioned in the list at the end of this article costing only 9d. with postage 6d. extra. Please note that the electric accessories shown separately are not included in this parcel, but procured from any local radio or electrical store at about the prices quoted against each.

The various "Keep Left" stand-ard parts are cut out first, having

See patterns
on pages 468-9



the frame fitted with a fine fretsaw blade to ensure accuracy and neatness. This is rather important.

The front, back, and central framing pieces are selected and evenly glued and nailed together as shown at Fig. 1. It will be noticed that the central framing part is between the others, and this is in order to have a hollow channel for the electric wiring.

Figs. 1 and 2 explains how this is accomplished. A $\frac{3}{8}$ in. bulb socket is attached to the connection plate with one flathead brass engineer bolt, first countersinking the fibre socket washer to suit same. Two 6 in. lengths of (S.W.G.) 22 covered copper wire are attached as shown. No doubt many readers will have a supply of this wire left over from the last article. Bare the ends about $\frac{1}{2}$ in. and insert one through the plate and loop securely to the socket, the other wire being attached to the socket screw projection.

Before inserting the wires into the standard channel, curl each (see Fig. 2) and then press the plate down firmly, but temporarily in place. Owing to lack of space in the top framing aperture, it is essential to curl the wires to allow some freedom when fitting the bulb in its socket.

At this juncture, select the $\frac{1}{4}$ in. thick base piece and drill

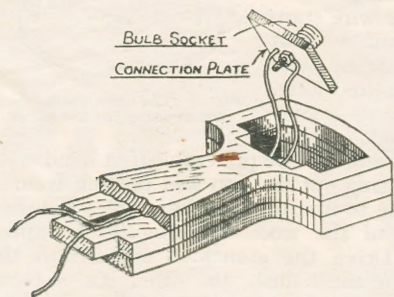


Fig. 1—A general view of construction.

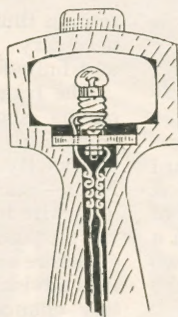


Fig. 2—A sectional view of the bulb plate and electric fitting.

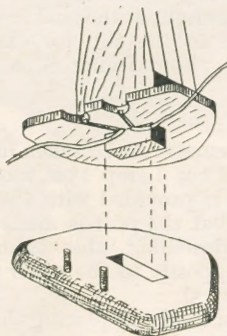


Fig. 3—Wiring through the base.

Illuminated Street Signs—(continued)

and countersink it underneath for the bolt terminals, the edges then being rounded with glasspaper as seen at Fig. 3.

The top base piece requires two spreading grooves made underneath for the wires to fit flush. These are clearly depicted in the drawing; being cut from plywood, the grooves are made by chiselling to the depth of one ply, the waste then simply prised away with a penknife.

The Wire Grooves

Glue the top layer to the (A) tenon shoulders of the standard, the wires being pressed flush with the grooves before gluing the terminal base in position as indicated. Each wire is looped to fit the screw

terminals and held in place with the nuts. Each terminal must have extra loose nuts for connection purposes only.

To avoid confusion in the wiring, a clear idea of the simple electric circuit is given at Fig. 9. This will

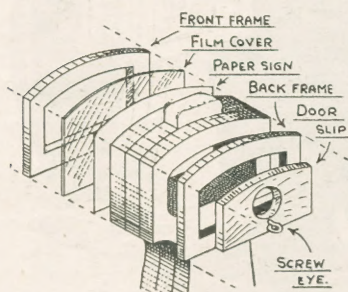


Fig. 4—The various framing parts.

explain the correct positive (X) and negative (—) terminals.

Attaching the Frames

Fig. 4 shows how the various frame pieces are attached to the standard top. Glue and nail the back framing permanently in place, the front parts being attached temporarily.

Before doing this, however, take a copy of the "Keep Left" sign, using black indian ink on thin cartridge or tissue paper. The tracing is cut with the scissors to the outside lines, and, in order to lend the appearance of glass, a piece of thin plain celluloid (an old cleaned negative film would serve) is cut similar and the whole lot nailed together as indicated.

It will be seen that a small hole is made in the door slip portion. A suitable piece of crimson coloured celluloid film is glued to the inner side to have a combined danger light at the back. A small screw-eye is attached to the slip for extracting purposes, whilst two photo frame clips hold it neatly in place.

The Lamp Post Model

Extra care and patience must be taken in regard to the construction of the Lamp Post model. A full size detail of this is provided with the rest of the patterns. Note that the post is made from a 6in. length of $\frac{3}{8}$ in. dowelling, this having two grooves made along opposite to the other for the electric wiring (see Fig. 5).

The grooves are best made by placing the dowel lengthwise in the vice and sawing out the $\frac{1}{16}$ in. deep channels with a tenon saw. Drill an $\frac{1}{8}$ in.

hole about $\frac{3}{4}$ in. deep in the dowel end, a tiny one being drilled about $\frac{1}{4}$ in. down in the groove as shown by the inset detail. Bare the ends of two gin. lengths of the copper wiring, one then slightly bent at the end and inserted into the groove hole for contact with the bulb screw connection. Press the wires flush into the grooves, allowing the top end of the other to project sufficiently for looping around the bulb socket.

Before screwing the latter in place, insert one of the post washers, then the cross-bar portion and other washer (see Fig. 6).

The Base Column

The six $\frac{1}{4}$ in. thick washers form the base post column. The edges of the topmost washer require to be first rounded with glasspaper. Glue this and the rest on to the dowel post, allowing the end of the latter to project $\frac{1}{2}$ in. for the base pieces. Before gluing these in position, round the edges of the $\frac{1}{4}$ in. thick centre layer and make grooves underneath for the wires (see Fig. 7). The bottom layer has two holes drilled and countersunk for the bolt terminals.

Assemble all together and connect the lamp wires to the terminals, these having double nuts as like the previous model. The post wire grooves are filled in with plastic wood and all set aside meanwhile.

At this stage, proceed by making the lamp covering shade as shown at Fig. 8. The hole in the bottom frame should engage fairly tightly with the top post washer, but with enough freedom for removing and replacing. It must

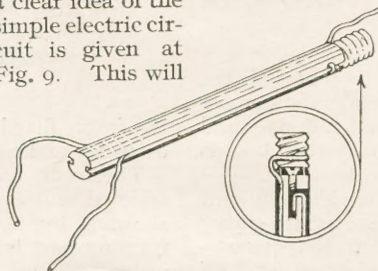


Fig. 5—The dowel post and grooves for the wires.

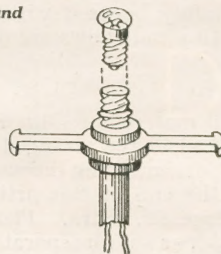


Fig. 6—The crossbar, washers and bulb.

remain thus, in view of necessary adjustments and bulb fitting.

The frame wire stanchions should be cut from fairly strong wire to exactly $1\frac{1}{2}$ ins. long. Nails, such as $1\frac{1}{2}$ ins. long wire brads—serves the purposes and is more preferable if at hand.

Before cutting out the top and bottom frames, it is advisable to first drill the wire holes to lessen any chance of the wood splitting if attempted otherwise. Drive the stanchion wires into the bottom frame until flush, the other frame being set on top and this procedure followed. The

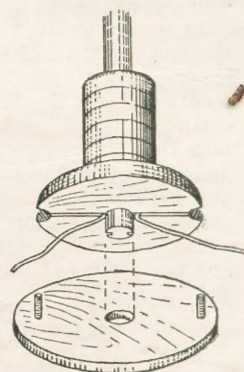


Fig. 7—The case work. Note the grooves for the wires.

Illuminated Street Signs—(continued)

spindle stub of the $\frac{1}{2}$ in. ball foot is glued and inserted through the overlay into the top frame as indicated.

The Cellophane Covering

The framing is now ready for its "panes" of glass. A rather novel imitation of frosted glass is obtained with use of glossy cellophane paper. This particular variety of paper is usually to be found wrapped around many domestic goods or cigarette cartons.

A strip of this about 3 ins. long by 1 in. wide is neatly and tightly bound around the stanchion wires, having the joint meeting along one of same. Two elastic bands of adequate circumference are slipped over and pressed evenly down to each of the frames.

The Finish

In respect to the finish, both these models would look best if polished ebony black. To eliminate at least half of the necessary work involved for this simple effective finish, a small bottle of Hobbies Lightning Ebony Colour Polish (costing only 1/9, postage 4d.) could be obtained and applied with every confidence of a splendid finish. This polish by the way, goes a good distance and stains the wood the same time as it polishes—thus saving much time and trouble.

The reader desirous of a realistic effect, however, should paint the models in black and white, especially the Traffic Standard model. The base

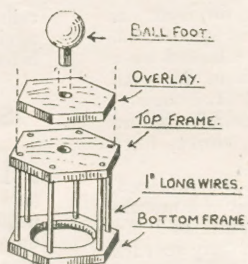


Fig. 8—The movable lamp shade in parts.

of this could be thinly smeared over with glue and sprinkled with fine sand to give the appearance of concrete.

The Flex and Batteries

Now, being independent of each other, the models require separate connections and batteries. Instead of using the ordinary 3-cell flash lamp battery, a small sixpenny grid bias battery (usually 9 volts) should be purchased with the other electrical fittings.

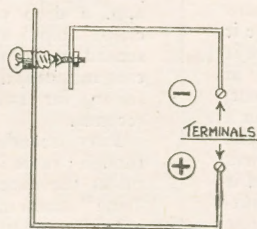


Fig. 9—The wiring circuit for both models.

The coloured twin flex can be any length extending from both models. Bare the ends and make loops at the ends of each strand for the screw terminals. The other strand ends are also bared, then the plug parts separated. The appropriate coloured erinoid handles are

slipped first over the flex strands, then the brass screw cap finally attaching the wire to the plug fitting.

Be Careful

Here is a word of warning about connecting the plugs in the battery sockets. Having inserted the positive plug (X) into its relative socket as marked, do not insert the negative plug (—) into sockets marked higher than 3 volts, or else the bulbs will suffer. As the battery energy weakens with use, however, sockets graded higher may be used, viz.: 4.5—6—7.5, etc., until the limit of 9 volts is reached.

WOOD REQUIRED

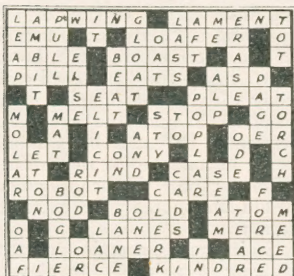
- 1 piece $\frac{1}{2}$ in. plywood, 12 ins. long, 12 ins. wide.
- 1 piece ditto, 9 ins. long, 6 ins. wide, $\frac{1}{2}$ in. thick.
- 1 piece $\frac{1}{2}$ in. round dowel rod, 6 ins. long.
- 1 ball foot (No. 14), $\frac{1}{2}$ in. diameter.
- 2 photo frame clips. 1 small picture screw eye.
- 6 $\frac{1}{2}$ in. by 6 brass flathead engineer bolts (with extra nuts), 2 1 in. elastic bands.

Note—The Parcel No. T.M. 276 supplied by Hobbies Ltd. contains the wood, round rod and the base foot and costs 9d. (postage 6d.) The rest of the material and electrical accessories are obtainable for a few pence locally.

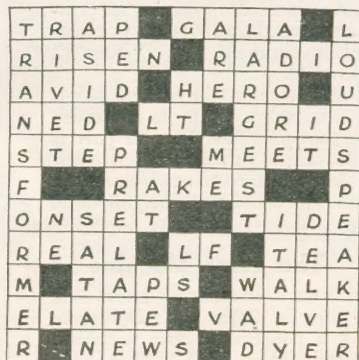
THE ELECTRICAL ACCESSORIES

- 2 $\frac{1}{2}$ in. bulb sockets (with fibre washers) each 1d.
- 2 $\frac{1}{2}$ in. bulbs (2 point 5 volt) each 1d.
- 2 feet (S.W.G.) double silk covered copper wire. In 2oz. spools, each 7d.
- 2 lengths twin flex (red and black), per yard, 1d.
- 2 battery plugs (red and black) each 1d.
- 2 9-volt grid bias batteries. each 6d.

Solutions to our Crossword Puzzles



Those readers who went in for our Crosswords some time ago will be interested in the solution to two of them, which is given herewith. The one on the left appeared in our issue dated October 27th 1934, whilst that on the right was in Hobbies Weekly of July 21st 1934. It may seem a long time ago, but you must remember that Overseas readers who enter the contests are allowed a long time, and we must wait beyond that date before putting in the solution.



What's going on

A popular Science Feature

A Fishing Story

DO you know that you could freeze a bowl of goldfish into a solid block of ice—and thaw them out still alive and kicking upwards of twelve months later? Well, you could (believe it or not) and that fact has made it possible to design a fleet of remarkable trawlers. At present, a good deal of fish reaches us in a more or less stale condition. The catch is simply gutted, washed, stowed away in broken ice, and it soon loses the delicious “just-out-of-the-sea” flavour. That is one reason why the British fishing industry has experienced such a very lean time. So scientists all over the country have been trying to discover an improved method of storage.

Here it is. Something rather original in the way of refrigeration. Freezing fish had been attempted before with peculiarly unhappy results (it tasted like fishy cotton-wool!); then someone remembered that fish hibernate naturally in a solid mass of ice.

Accordingly, a feature of the new trawlers is the special freezing plant consisting of a series of rotating hoppers (some containing frozen brine and some air at a temperature below zero) through which the fish pass one by one.

Each vessel will be 200 feet in length; its two great holds will each accommodate 150 tons of fish. And it will cost £56,000 to build.

Healing by Wireless

OPERATIONS may soon be unnecessary in the case of certain serious diseases; they will be treated with ultra-short radio waves instead. That is the prospect opened up by recent successful experiments at “Bart’s” Hospital.

Moreover (an important point) the waves’ heat can be controlled so that only the diseased part is affected by it. In fact, such delicate adjustment is possible that you could cook the yolk of an egg and leave the white raw.

The Time Machine

IF you ever want to know the time in Paris don’t bother to ask a policeman; just telephone “Paris-Odeon 8400.” That is the number of an astonishing robot

clock installed at Paris Observatory.

Every ten seconds this clock announces the time in words. Suppose, for example, you rang up immediately after 8.5 a.m. a deep voice followed by a crisp “pip” smack on the tenth second would say “Huit heures, cinq minutes, dix secondes.” And so on, for twenty, thirty, forty seconds.

Fifty seconds is not announced, though; there is a bit of a mouthful at the exact minute so “Mr. Time” starts on the forty-seventh second to get it all in.

This is how it’s done. The

calls every month. We may have a similar clock in this country before long.

Science Film Bumps

HAVE you spotted a mysterious looking closed-in lorry slowly patrolling the roads in your neighbourhood? It contains a unique set of scientific instruments (the only thing of their kind in the world) designed for a Government investigation into the question of road surface development.

Inside the cabin four men manipulate knobs and switches and keep a sharp watch on numerous tell-tale dials. All the time delicate mechanism traces the speed and force behind every bump caused by the irregularity of the road. More than that; it makes a film record of the whole thing as well.

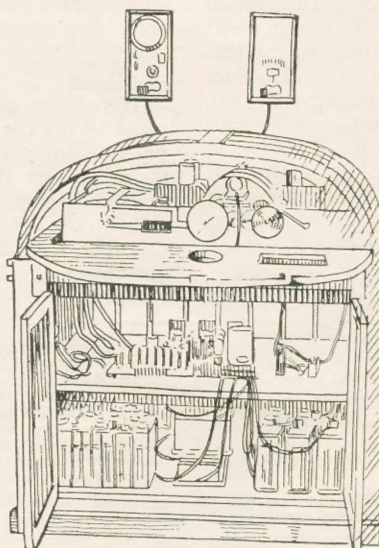
When the film is subsequently screened it simply reproduces a series of jagged lines, but from the length and height of these the research men can calculate just how many tons impact there was each time. That information, it is hoped, will go a long way towards the evolution of a perfect road surface.

Kill that Crab!

AN unwelcome visitor from China and Japan has recently put in an appearance round our coasts. They call it the “mittened-crab,” because of a peculiar growth of silky hair that adorns the large claws.

The crab itself is quite harmless, but unfortunately it harbours a dangerous disease-carrying fluke worm. This worm, after spending the early part of its life in the livers of shell fish, bores a way into the mittened-crab’s body with a kind of spike on the head. Should the crab subsequently be eaten by a human being in mistake for the ordinary edible type, the consequences would undoubtedly be extremely serious.

So if you see a crab apparently wearing a pair of fur gloves—step on it!



A picture of the Time Machine.

various phrases are recorded as light and dark transverse lines upon strips of photographic film fastened round an aluminium cylinder rotating at a certain fixed speed. Reflected light from a lamp shining upon this soundtrack falls on a photo-cell with varying intensity (corresponding, of course, to the darkness or otherwise of the lines on the strip of film). And the fluctuating currents so set up, amplified and passed through your telephone, reproduce the sentence announcing the time at that particular instant.

“Mr. Time,” by the way, receives a quarter of a million

FRETWORK



A SMALL MODERN CLOCK IN MAHOGANY

From this week's Free Design Chart.

OUR gift chart this week, is for making the handsome clock illustrated herewith, and it is one—every reader will agree—should do credit to the user of the fretsaw and to any handyman. One big advantage of this design chart is that the patterns are supplied full size and ready to paste to the wood. So there is no need for measuring or drawing, as is usually the case. Another big advantage is that Hobbies Ltd. supply planed wood cut to the size required for each part, whilst, finally, there is also a suitable clock movement provided at quite a reasonable price.

In this way the whole piece of work can be completed by the amateur with only a small outlay, with the pleasure of doing the work, cutting and constructing in one or two evenings.

A clock such as this was built in mahogany in order that a polished surface may be obtained, and has simple contrasting overlays in a different species of wood so they stand out in striking relief.

If the worker has his own boards of mahogany, he will need a small piece of whitewood in addition for the overlays and must also obtain lengths of ornamental moulding (No. 307) to fit into the corner of the base where it helps to make an ornamental shape with very little trouble.

When one has the parcel of wood, the first job is to check off the various parts with the actual patterns on the sheet, and to note that the grain runs in the correct direction to provide the greatest strength. The patterns are cut out from the paper sheet, pasted to their respective boards and allowed to dry before cutting with a fretsaw. Beyond the overlays, themselves, there is little actual fretwork to be done and in many cases the edges of the overlays are straight.

Where this happens it is a good plan to paste the paper pattern down with one edge on the actual edge of the wood. This provides a straight edge at once, and saves the trouble of cutting that particular side.

Again, where the parts are merely rectangles, they can be measured off with rule and dividers and marked out in pencil on the wood instead of pasting the paper down. This, again, saves trouble of glasspapering the remains off. It also leaves the actual paper pattern in hand to show the position of the various adjoining parts.

These positions are indicated clearly by dotted lines, and they should be marked off—by the way—with a pricker or the point of a compass. A tiny pinhole is made at the corners of the dotted lines showing where the adjoining parts will come later.

We take it the reader is able to cut out the different parts satisfactorily and needs no instruction on that matter.

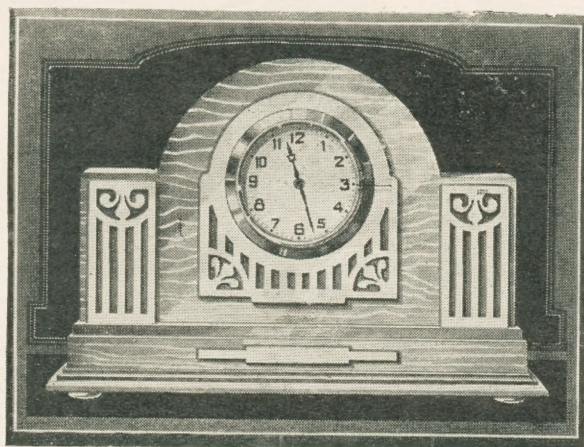
All parts, of course, must be cut exactly to the patterns provided and the paper remains afterwards cleaned away with a medium grade of glasspaper. Then each piece is tested in its position, and the whole thing temporarily put together—if only in parts at a time—before it is finally cleaned up and then glued as a complete article.

Let us, therefore, look at the construction and bear the points in mind when that work is undertaken.

At Fig. 1 is given the detail of the bottom portion which forms the base and plinth.

The base itself, is cut from a piece of $\frac{3}{4}$ in. wood, and the centre rectangle is taken from it to provide the odd pieces of stiffening strips for use later. The front edge of the two ends of this base are rounded off with glasspaper, but the back edge is left square.

Upon this base is built up the box form of the plinth portion. For this we require the two pieces of the front and back (shown in one on the pattern) and the two sides or ends. The back is glued and screwed to the base flush with the back edge and the screw holes indicate these by their position on the pattern. The two sides are then glued to the back and the front added over the edges (see Fig. 1.)



MATERIALS SUPPLIED

A parcel of fretwood is supplied, containing panels of mahogany, plywood and whitewood for overlay, with suitable moulding and four toes, 2/6 (post free 3/-).

The clock movements available are No. 5503a, 30-hour nickel clock, with chromium plated rim, 6/9 or an 8-day similar clock for 12/6. Postage is 4d. on either.

A Modern Clock—(continued)

The ornamental moulding (No. 307) is cut off the length of the ends and front and glued round as can be seen in that detail. The long pieces must have both ends mitred, but the piece on the sides has only the front end mitred because the other end is left square with the back. See that the top edge of this box is flat all round and then glue in place the strengthening strips previously mentioned. They are fixed (see Fig. 1) to come flush with the top edge of the base parts.

The Uprights

At Fig. 2 is shown the general construction of the main front and back. The floor ($\frac{1}{4}$ in. thick) has a back and front fitted on to it in the same manner as the base, and at the ends the narrow sides are also glued in.

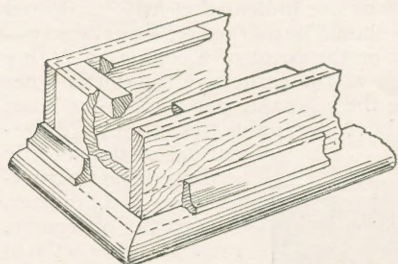


Fig. 1—A cut away view of the base showing construction.

the edge of the floor so when the front is fitted on, it is set back about $\frac{3}{16}$ in. from the front edge of the floor. Both the back and the front, of course, have a circular opening cut to allow the fitting of the clock movement, and it is advisable to test this movement in place to be sure the hole is large enough.

A cross support is also provided to strengthen up the back and front. This is slipped between these two pieces and there glued firmly just above the opening of the clock movement. It can be seen clearly in Fig. 2.

The whitewood overlays can be cleaned up and glued in place now if desired, or can be added later when the carcase has been more completed. The upright overlays are set inwards $\frac{1}{4}$ in. from the ends and stand upon the floor. The centre overlay, of course, is glued with the opening level with that already cut in front. Those who prefer a plainer front, by the way, can omit the two end overlays altogether.

The Curved Top

There now remains the top curve of the clock to fit in place. This is made up from a piece of $\frac{1}{16}$ in. plywood or fretwood. Note that the grain must run across the narrow width in order to allow bending

Notice here, again, that the back of the case comes flush with

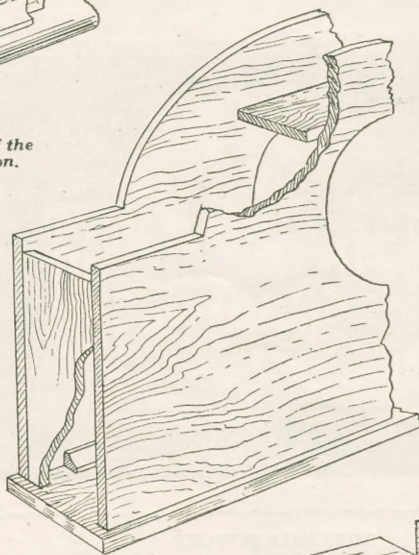


Fig. 2—Notice the strengthening pieces in the general framework.

without breakage. Support is provided for this curved top by the addition of the ribs which are fixed inside the case to the back and the front. These ribs must form a semi-circle when put together and their position is indicated by the dotted lines on the pattern of the front.

The thin curved top can be fitted either so it is flush with the edges of the back and front or it can be recessed slightly as is shown in the detail at Fig. 3. The position of the ribs is shown by the dotted lines on the pattern allowed for the recessed top, but if it is required to bring it level with the front and back edges, these ribs will have to be glued a little nearer the outline.

The Flat Ends

See the ribs are securely fixed in place, and allow the glue to dry before attempting to do this curved top. This top is glued on carefully into the angle of the ribs and the uprights, and can be lightly pinned on the ends of the rib until the glue has set.

The ends of this plywood are covered by two flat side pieces. One of them is shown in Fig. 3 withdrawn and ready to slide in place. The edge of these pieces which is to come against the bedded top should be slightly chamfered to take the curve, and when it has been found to bed nicely, the whole piece can be glued in position between the back and front of the ends. To prevent this falling in in fitting, it will be a good plan to glue in little blocking pieces for it to rest upon.

The clock is completed by a fancy

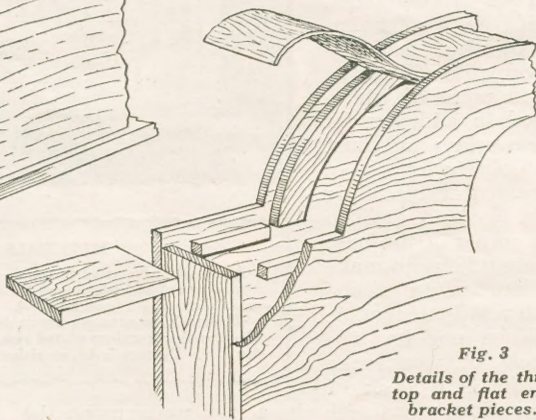


Fig. 3
Details of the thin top and flat end bracket pieces.

ornamental piece cut from $\frac{1}{8}$ in. wood and glued to the front of the base, and four small round feet are glued in the base, one in each corner.

The clock movement is added by taking off the back plate, putting the barrel through from the front and then fitting the plate on again so that it screws close to the wooden back of the case. It will be noted that there are two clock movements available for this design. One is a 30-hour and the other is an 8-day, but both are reliable movements and have chromium-plated rims which will not tarnish or need cleaning.

MORE CIRCUS CUT-OUT FIGURES

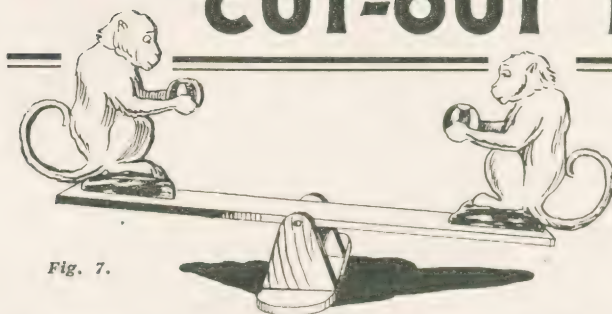


Fig. 7.

HERE is yet another addition to our series of Circus designs which are proving so popular with fretworkers generally. We include this week a comical little Clown to add colour to the ringside, a dainty little lady horseback performer and the ever popular monkey twins playing ball on the see-saw.

The Clown is intended to stand in the Ring, while the horse (being fitted with base and wheels) can be drawn round it realistically or it could form an addition to the very essential circus procession.

Previous Parts

All the work in drawing out, cutting, and assembling the various parts has been kept as simple as possible. If workers have made all the pieces in our foregoing circus articles and have coloured them up successfully, little further advice need be given here concerning this work. Those who have not yet attempted the series should get the back numbers of *Hobbies* and commence straight away to make them up. The articles have appeared in *Hobbies Weekly*, dated Dec. 8th, Dec. 22nd, 1934 and Jan. 19th.

After a little practice with the brush, and having suitable paint or enamel, no difficulty should be found in making the whole set attractive.

Making a Ring

It is suggested that a miniature "ring" be made from a strip of card or thin plywood with some small blocks of wood attached for strength, and a circular base added. The interior is filled with fine sawdust to give realism. Stand the cut-outs and the figures around and so get the atmosphere of a real circus.



Fig. 1—
The Clown.



Fig. 6—The monkey.

On a piece of wood measuring $4\frac{1}{2}$ ins. by $2\frac{1}{2}$ ins. draw a number of squares as shown in Fig. 1 and complete

Another of our popular series of stand-up toys with which to form a complete Circus. Wood and full-size drawings are supplied as mentioned.



Fig. 2.

the interior detail by following each of the squares carefully. Now make a tracing of this including again all the lines of the face and costume. This tracing will come into use when the cutting out has been done and the large washes of colour put on.

Lay a piece of carbon paper on this when the paint is dry, of course, and go over the detailed lines which should be finished in indian ink or colour.

The face should be white with red markings, and the costume carried out in say three colours—two for the blouse and trousers and the other for the neck frill, pom-poms and rings. A short piece of grooved moulding (No. 48b) with ends shaped to the profile is used as a base, the figure being glued into the $\frac{3}{16}$ in. groove.

The Figure Work

The larger figure given in Fig. 3 is carried out exactly as the previous one, a piece of $\frac{3}{16}$ in. wood again being required $7\frac{1}{2}$ ins. by $6\frac{1}{2}$ ins., with squares drawn upon it $\frac{1}{2}$ in. sided. Use a fine saw for the cutting, and afterwards clean off the edges of the cut-out parts. Paint up the whole thing in bright colours and fix to a piece of the grooved moulding as before.



Fig. 4—The finished Equestrian Figure.

Circus Figures—(continued)

Four small aluminium wheels may be screwed to the ends of two $\frac{1}{4}$ in. by $\frac{1}{4}$ in. cross axles which must be cut to length sufficient for holding the figure upright and steady. These axles must be glued to the base moulding. A hook and an eye screwed into the ends of the moulding will make the figure suitable for linking up with the others in the procession. Fig. 4 gives an idea of how the finished model looks when painted up.

The Monkey see-saw is a stationary model and quite simple to make. Upon a $\frac{3}{16}$ in. thick base measuring $2\frac{1}{2}$ ins. by 1 in. and with rounded ends, a pair of shaped uprights are glued, these being cut from $\frac{3}{16}$ in. stuff $1\frac{1}{2}$ ins. high by 1 in. wide and to taper slightly and finished with a rounded top all as the detail Fig. 5 shows. Space the uprights $\frac{3}{4}$ in. apart upon the base.

The board is a plain piece 7 ins. long, and to the ends are glued the little figures of the monkeys shown in Fig. 6.

Paint them up realistically and when they are fixed to the board attach the latter to the uprights with roundheaded screws.

MATERIALS REQUIRED

- 1 Piece 6 ins. by 5 ins. $\frac{3}{16}$ in. Plywood.
- 1 Piece 7 ins. by 2 ins. $\frac{3}{16}$ in. Plywood.
- 1 Piece 8 ins. by 7 ins. $\frac{3}{16}$ in. Plywood.
- 1 Piece Grooved Moulding No. 48b. 6 ins. long.
- 1 Piece $\frac{1}{4}$ in. by $\frac{1}{4}$ in. Stripwood 9 ins. long.
- 4 Aluminium Wheels 1 in. dia.

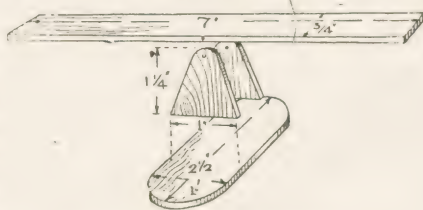


Fig. 5—The See-saw construction.

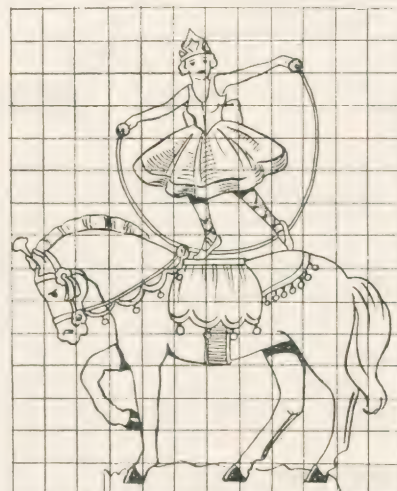


Fig. 3—How to draw the lady rider.

Models of Queen Mary and The Empress of Britain

THE illustrations below do not really do justice to the excellent models actually made. The detail in both of them is really astounding, particularly in view of the fact that the maker was 59 years of age. He is Carlyle Rhodes of Romford, Essex, and the two models are of the "Queen Mary" and the "Empress of Britain." The former is in a showcase 5ft. 1 in. long and 20 ins. high. A reflected light illuminates the model beautifully, and, moreover, 120 portholes and windows are brilliantly lighted up from behind.

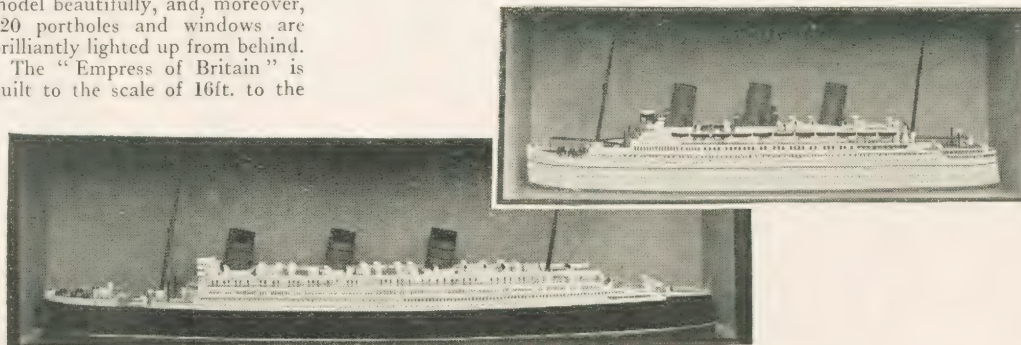
The "Empress of Britain" is built to the scale of 16ft. to the

inch, and has an overall length in the case of 4ft. 3 ins. It is, like the other, illuminated from the inside. The colouring of the model is correct as far as possible, and the detail of the work can be gathered from the fact that the model took nearly six months of continuous work to make. The "Empress of Britain" is valued at £30, and the other one at £65.

The usefulness of Hobbies tools

is proved in these models, because Mr. Rhodes used them throughout, the principal materials incorporated being plywood, dowelling, pins, copper wire, sheet zinc—all of which were obtained from the London Branch of Hobbies Ltd.

Such a piece of work is proof again of the utility of the fretsaw, and of Hobbies materials. Mr. Rhodes is to be congratulated on his wonderful effort.





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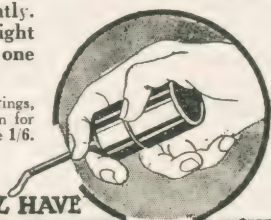
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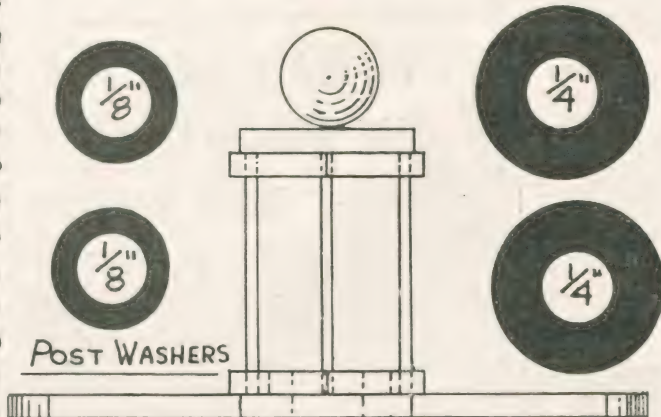
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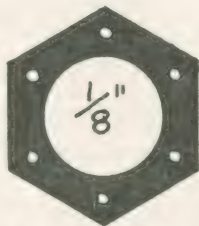
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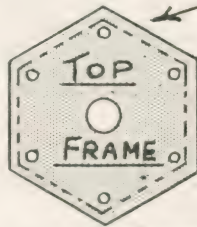
See page 459



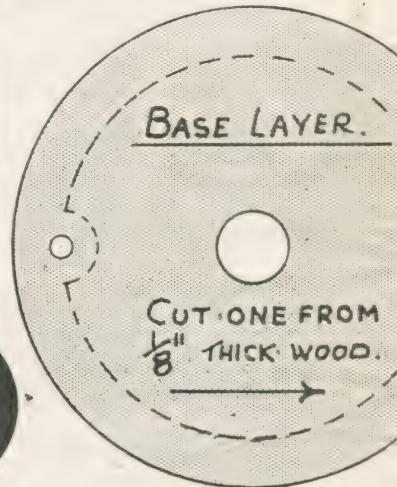
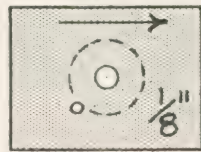
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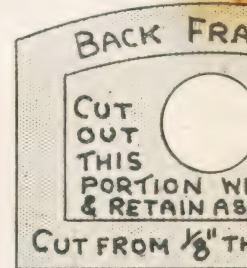
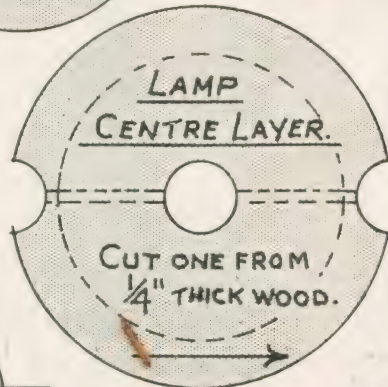
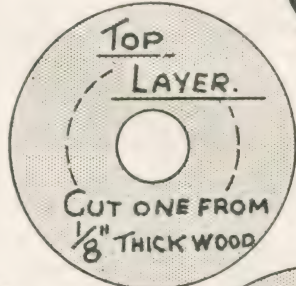
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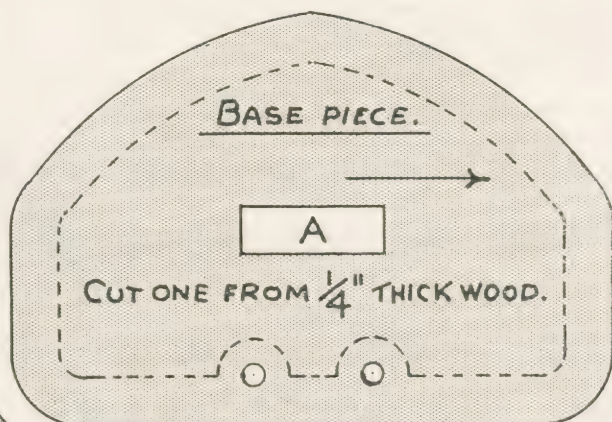
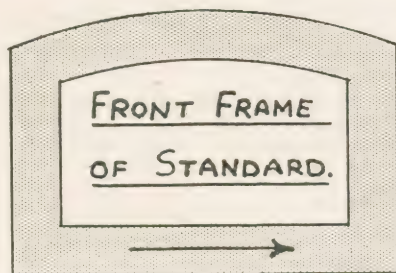
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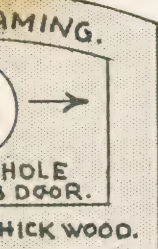
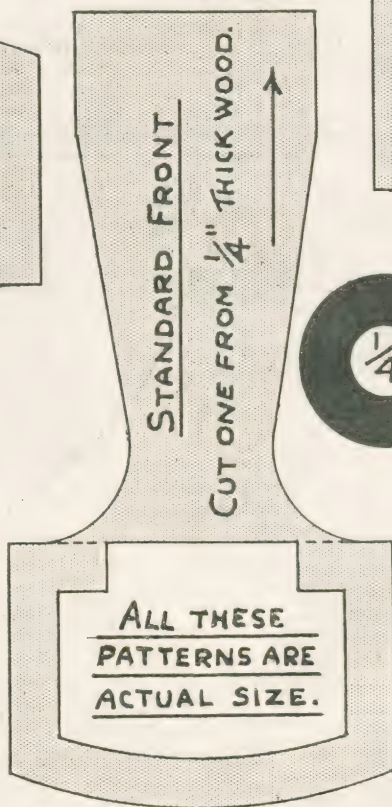
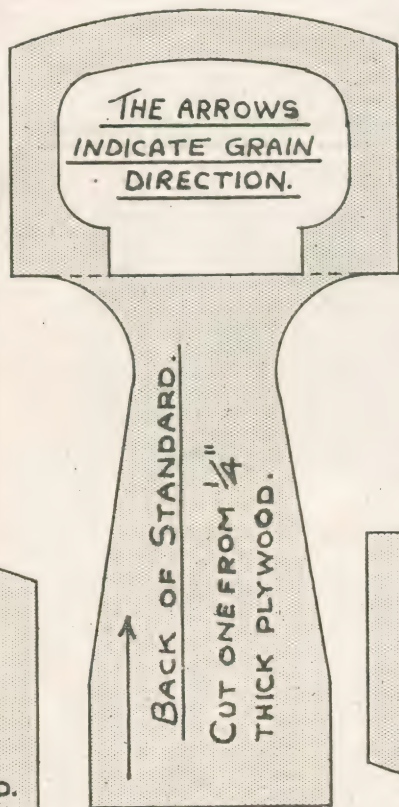
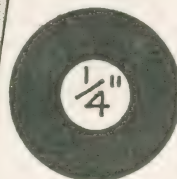
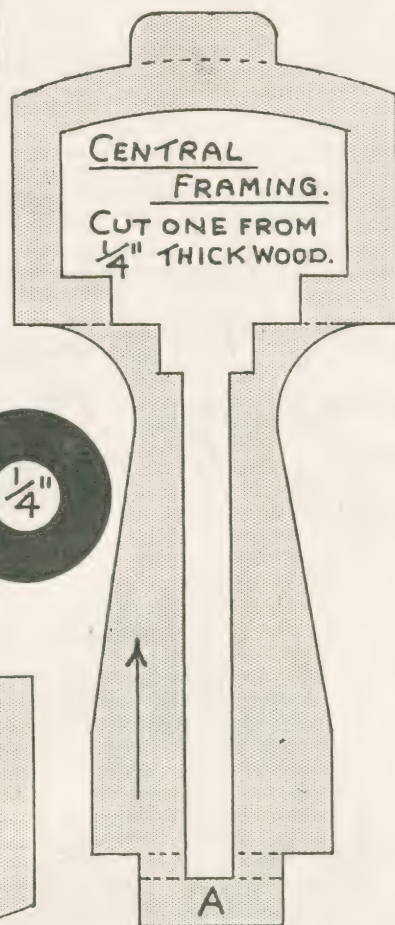
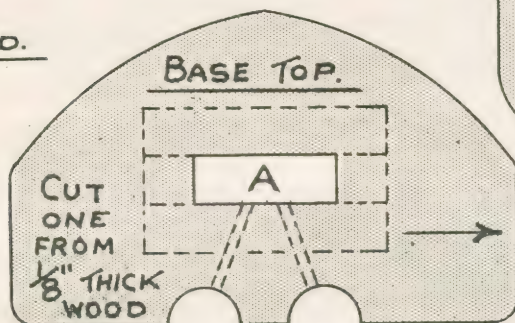
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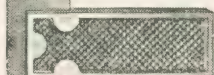
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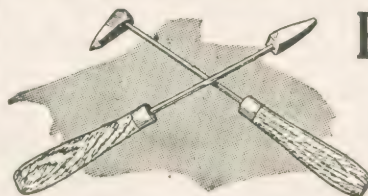
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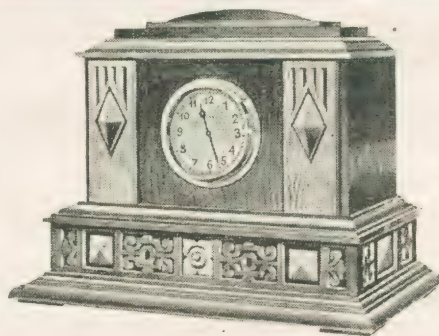
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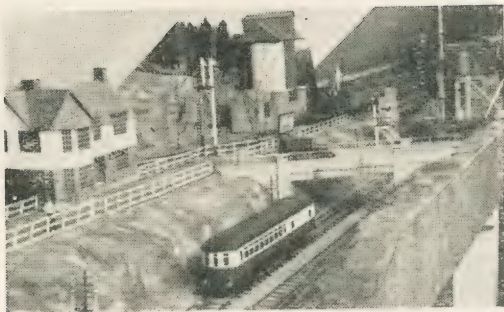
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A realistic cutting and road bridge.

WE now pass to those details of equipment which hardly come under the same heading as the foregoing. They include huts of all kinds, sleeper stacks for the permanent-way gang, repairs caution signs, gravel bin, whistle and speed signs, goods yard loading gauges, a yard crane and loco water standpipes and tanks, as well as a dummy mail-bag apparatus.

With the exception of the huts, we would suggest metal construction for most of these details. Using metal, it is easier to get the fittings down to scale dimensions, and they are permanent when made. The fogman's hut (shown in Fig. 15), is also made of metal, a metal "granite wall pier" as sold in a famous farm series of toys being employed. The "pier" is cut away to the length required, an aperture cut out with a knife for a door, a seat added, and the whole painted flat black.

The adjoining type of hut, which is also shown in a position of temporary disuse, as is often the case, is made from wood or card glued together and lined with a bradawl.

The platelayer's hut (Fig. 16) is best made from a solid block of wood having a thin wooden mask on the front with a cut out doorway, and a piece of stripwood for a chimney-stack, the latter covered with "old brick" paper. The sleeper-stack (Fig. 17) is made up, with glue, of actual OO-Gauge sleepers, piled as shown. These are usually ready painted or creosoted.

Proceeding to equipment made up in soldered metal, we have the 'Whistle' sign which is placed on the trackside near tunnel-mouths and level-crossings. It consists simply of a piece of tinplate soldered to two pieces of cage-wire, the latter forced into holes in the baseboard. The sign, printed in white letters on a black ground, may be had, like those for the repairs signs, on a sheet of railway signs which can be bought commercially.

The signs "C" and "T" (Fig. 18) are similarly made and lettered. A scale for the



Metal Yard Gates.

Accessories for a MODEL OO GAUGE RAILWAY

The conclusion of an article in our issue dated January 19, where other track-side models were given in detail.

foregoing equipment is given with the drawings, in order to ascertain OO-Gauge dimensions. These are repairs signs, commencement (c) and end (T).

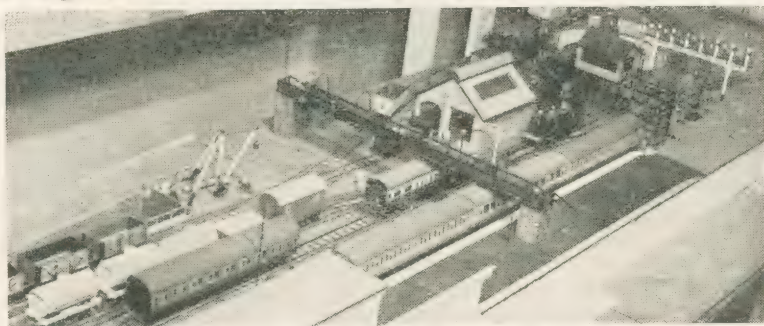
A very simply-made model, which can be done in tinplate or card, is that of the gravel bin in Fig. 19. This is shown embedded partly in an earth bank. It should be painted black and filled with fine gravel.

The goods yard loading gauge can be made conveniently from wireless busbar of the largest size, the two main members being soldered together and the finer details added in wire. The base is a discarded solid OO-Gauge wheel, through which the post is set in the baseboard (Fig. 21).

In Fig. 20 we have a suggestion for a goods yard crane, made up of $\frac{1}{4}$ in. brass strip. For the pulley bearers some discarded ends of OO-gauge couplers which are ready drilled were used, and another coupler was utilized for the gear bracket. The pulley is an O-gauge signal pulley, though a suitable wheel can be had from the fifth wheel of a Dinky-toy motor car, after the tyre is removed.

An old clock cog-wheel adds to the realism if soldered on the cage-wire crank, and serves to keep the crank in place. Ships' chain, 20-link to in., is used for the hoist, and the weight above the hook was made from a Merco coach-bogie block.

The dummy mail-bag apparatus is a very effective feature, easily built up from busbar, cage-wire and brass gauze as used on wireless cabinets. A piece of cage punch-bar is first soldered to the tops of two wire supports which enter baseboard. Another piece of punch-bar crosses lower down. The swivelling arms pass through the holes in these punch-bars, being held in place by soldered washers. The 'gauze' footboard is made



The layout for a station and extension lines.

Model OO Gauge Railway—(continued)

up separately, by sweating a piece of fine gauze on to a busbar frame and afterwards trimming off the edges with scissors and file.

A handrail of fine wire, and a ladder are added. The ground net is of busbar and a heavier and coarser type of brass gauze. The whole should be painted pillar-box red, with white arms. (Fig. 22). A speed indicator is shown in Fig. 23.

tube) is of OO-Gauge rail with a square of gauze soldered into the web. If the rail frame is carefully made to fit around the gauze, no soldering of the gauze is necessary. Fig. 25 is similar, a drilled metal ball being used for the dummy weight. Fig. 26 has a flat disc weight.

The draining receptacle for Fig. 25 is a golf tee. Fig. 27 is more elaborate, but is very easily made.



Fig. 15

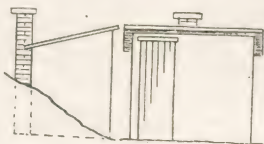


Fig. 16



Fig. 17



Fig. 18

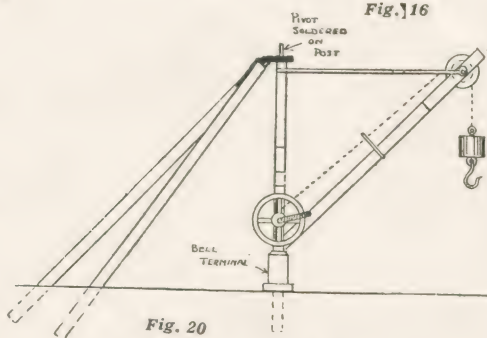
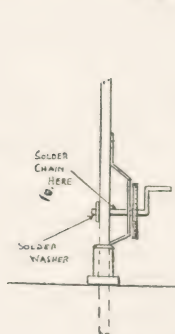


Fig. 20

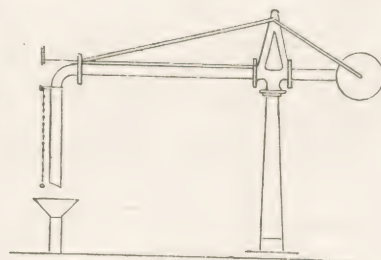


Fig. 27

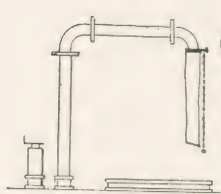


Fig. 24

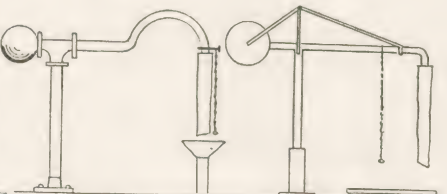


Fig. 25

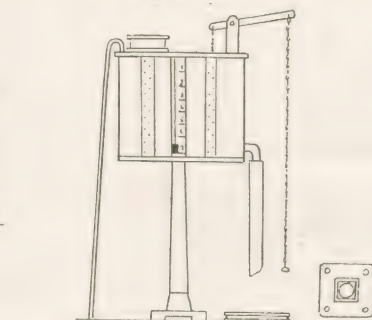


Fig. 26

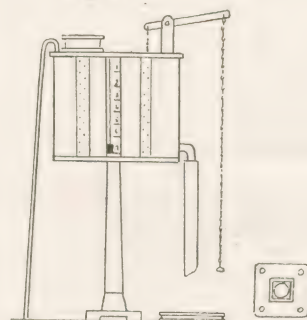


Fig. 28

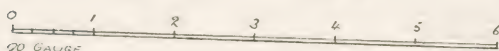


Fig. 19

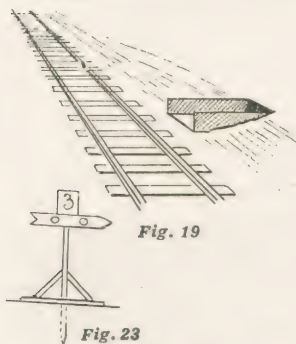


Fig. 23

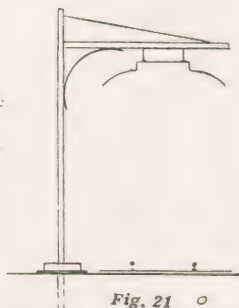


Fig. 21

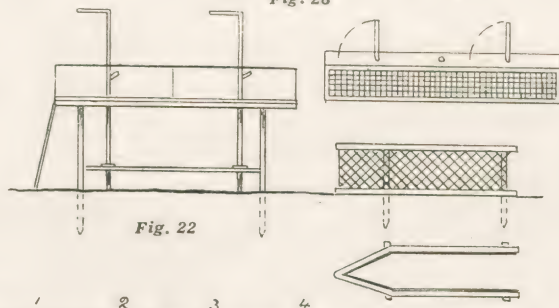


Fig. 22

In conclusion, there will be found in Figs. 24 to 27 designs for four types of water standpipes. The first (Fig. 24) is made from bent wire—about $\frac{1}{8}$ in.—with washers for flange connections, the column itself, into which the pipe fits, being a length of O-gauge brass fallpipe, with socket. The control turret is of the same material.

The grid receptacle below the hose (insulating

The water tank (Fig. 28) is a piece of circular-section wood for tank, the column being a piece of tapered penholder. The base is a Bassett-Lowke signal base (O-Gauge) and the manhole lid is also by the same firm—a loco side-tank manhole.

The dummy riveted overlaps on the tank are made by stamping full stops on strips of paper in a typewriter and sticking these in place.



PAINTING on glass is an interesting and practical hobby that can be practised by anyone; the cost of materials are small and the artistic skill required is of a very elementary order although there is no limit in this direction.

The most practical aspect of the art is the decoration of domestic glassware, such as a fruit dish—Fig. 1 (above)—or the ornamentation of plain glass jars or bowls, converting them into things of enduring beauty and much esteemed gifts.

Materials Required

The only materials needed are a few small pots of enamel and some brushes, but for the best results, both should be suited to the purpose and should be manipulated properly.

The two most suitable types of brushes are those known as “sable” and “fitch,” the ordinary round shape are the most extensively serviceable. For filling in large areas, a flat “hog hair” fitch is very useful.

When purchased new, place the brushes in lukewarm water and leave for an hour or so, then remove and wipe them dry, stroking the bristles outwards so that they form a neat point.

One of the most important items is to keep the brushes

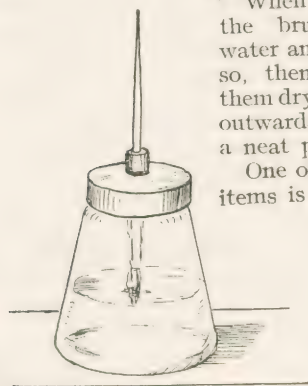


Fig. 2—The brush in a Jar.

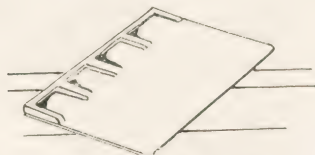


Fig. 3—A painting palette.



Fig. 4—A beginner's simple design.

in good order while in use—for which purpose a number of small glass bottles with wooden caps—such as cleanly washed “Stickfast” paste bottles should be prepared, as shown in Fig. 2, by fitting a cork into the centre hole in the cap. Through the cork pierce a hole—centrally—so that the cork can be pushed on to the brush handle. Place it so that when the brush is suspended by the cap the bristles are about in. above the bottom of the bottles. Clean turpentine is placed in the bottle to a depth of about in. and one bottle used for each brush.

PAINTING ON GLASS

A Fascinating and Artistic Hobby

When not required for use, the brushes are placed in their bottles and the turps swilled around by shaking the bottle. This clears the bristles—which then remain clean and soft for days provided the cork is a reasonably good fit in the cap.

Colour and Brushes

This may seem a small and troublesome matter at the start, but once the joy of always having a good clean brush ready for use has been experienced, this small trouble will prove to be well worth while. Incidentally, special brushes can be kept for each colour, which ultimately saves a lot of time and bother in washing the brush clean before proceeding with some other colour.

Good quality glossy enamel is used for the painting and any reputable brand is suitable. It is often possible to obtain from the colourman small “sample” tins costing only a few pence; and when procurable these will be found very economical and convenient. In general, the more strong and vivid colours will be found most serviceable because the areas to be covered are small and bright colours “show up” better. A wooden “palette” as in Fig. 3 is used for mixing the enamels.

Any Glassware

Glassware of any kind can be decorated in the manner now to be described, but the best results are generally achieved by using perfectly plain glassware, as devoid of ornamentation, “sand

blasting” or frosting as can be managed.

Having chosen the glassware the next step is to clean it very thoroughly, first by washing in warm soda water and then by rinsing in clean warm water. It is imperative that any trace of grease—even that from the finger tips—be studiously avoided. Immediately before painting, the surfaces can be wiped with a leather charged with clean Fuller's Earth, this will remove finger marks and leave the surface clean and dry.

Another point is to have the glass at the correct temperature, that is, about the same as that of a

Painting on Glass—(continued)

warm room, the object being to avoid "bloom" or condensation moisture which would impair the complete adhesion of the enamel.

Selection and preparation of the design is the item next for consideration. One of the most general useful articles is a bowl, decorated with a simple floral design, this blends with practically any scheme of decoration and has innumerable uses in the home.

An Easy Design

Taking a simple case as an example, a design as in Fig. 4, repeated as many times as necessary is practical or quite easy to carry out.

To prepare such a design, first measure the outside size or circumference of the bowl, say it is 30 ins., then divide this into three or four according to the number of times the design is to be repeated. For example—say three repeats; this means that the design must be completed in a less distance than 10 ins., something about 7 ins. long would be ample. Next take a piece of tissue or other soft paper—cut it to the required length, in this case 7 ins., then fit it into the bowl, cutting away the paper at top and bottom until it fits fairly closely to the inside of the bowl, and the upper edge of the paper is flush with the rim of the bowl.

Tracing

Next lay the paper flat on a drawing board and draw on the paper the desired design. If preferred, the design can first be enlarged from Fig. 4 on to ordinary paper and then traced on to the tissue in

the usual way with carbon paper. When the tissue has been outlined with the design, paste it into the bowl—as shown in Fig. 5 and then proceed to apply the enamel.

Three Drawings

Three separate tracings of the design can be prepared if desired and all three pasted into place but although this method enables more of the bowl to be painted at one time, it also triplicates the risk of smudging some of the enamel. By using one tracing and enamelling one section only and leaving it to dry, all risk of damaging the enamel is avoided and the tissue can easily be removed by damping it and then sticking it into the second position and so on.

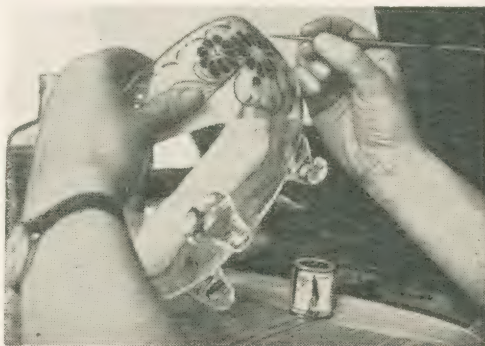


Fig. 5—Applying the enamel to a glass bowl.

Little need be said about the actual application of the enamel, it must be applied, however, at a suitable consistency, if too thin it will "run" but if too thick and heavy it will be found difficult to manipulate. The best results are attained when worked in what may be described as a "fatty" condition. The enamel then appears to glide off the brush and adhere at once to the glass, it is workable but is neither too thick nor too thin.

This condition can generally be reached by applying some of the enamel to the palette to form a little mound. It can then be worked gently with the brush, and if too thin a few drops of turps and one drop of linseed oil added and well mixed. If on the other hand the enamel is too thin, it will speedily begin to settle and thicken if left for a few minutes on the palette.

(To be Continued)

Recognizing Leaves—(continued from opposite page)

Each card should be placed upright in the filing cabinet (you can easily make such a cabinet out of a box) and arranged in alphabetical order.

Another method advocated in planning a leaf-album is to get twenty-six cards, each half an inch taller than the mounts. On each side rule off along the top edge ten equal squares, say of 1 in. On the first card write the letter A in the first square; on the next print B in the second square; and on the third card put letter C in the third square, and so on. The eleventh and twenty-first cards should have the letters K and U placed in the first square.

Now cut away the blank spaces on all the cards. You will then have a series of cards with a letter projecting above each. It is easy to arrange them in alphabetical order, and place the leaves after whichever card bears the initial letter.

It is advisable to write down brief particulars on each specimen card—kind of leaf, whether "simple"

"compound," or "divided," or any fuller particulars you care to add. If collecting merely for the sake of having the many beautiful leaves in their varied forms to assist you to recognize trees at a glance, then it is only necessary to give the name of each specimen.

A book on trees will be found useful when compiling your cabinet. Besides being classified into leaf forms, you may also classify specimens according to the kind of edges they have, such as entire; serrated or toothed; crenated or consisting of domed curves; dentated as the holly leaf, curves turned inwards; ciliated, or edge with a fringe; and sinuated, with a wavy edge.

The treatment of leaves consists of three stages: (1) drying (2) pressing (3) mounting and filing. A well compiled collection of a good number of different leaves is always of interest, apart from the fascination of collecting as many examples as possible.



The Vine.

RECOGNIZING AND COLLECTING LEAVES



The Willow.

THE leaves of trees are not difficult to procure, and it is possible to form a most interesting collection of them. There are, at least, one hundred and six different kinds of trees and shrubs more or less common in England, so it means an interesting search before you can hope to obtain all leaf specimens. Careful study of the leaf is not necessary, for the leaves on the same tree often vary in form, and when a specimen is obtained it must be regarded as one averaged-shaped leaf of the particular tree.

An Amazing Variety

It is not until you begin to collect leaves that you are amazed at the varied forms. Briefly, there are the thin needle-shaped, as found on pines, spruce and cedar; awl-shaped, as on juniper and tamarisk; narrow lancet-shaped as on willows; broad lancet-shaped as ash, rowan, laurel, spindle tree, chestnut and privet; oblong shape as elder, hornbeam, holly, etc.; elliptical as beech, walnut, white beam, plum, blackthorn, dogwood; broad elliptical as the hazel; heart-shaped, as on lilac and lime tree; lobed, as the oak, ivy, sycamore, field maple, plane tree, and others.

How to Select

Then we have a form that is broad at base and narrow at apex, found on such trees as the elm, lombardy poplar, apple, birch, dog rose, and way-faring tree, whilst an opposite form may be noted

in the leaves of the alder, wych elm, and horse chestnut, which are narrow at base and broad at the apex.

Specimens of leaves should be gathered and the best ones carefully selected. Leaves that attain a large size, as the horse chestnut (which is sometimes as much as 18 to 20 inches across with a stalk 9 or 10 inches) are better if gathered when young and small, as they then take up less room. Leaves which are of small or medium sizes may be procured when mature.

After selecting the better specimens dry them thoroughly at once, and before wilting sets in. Leaves contain much juice, and drying takes at least a fortnight or three weeks. The longer they are left under pressure the better.

Pressing Specimens

Pressing the leaves is quite simple. Place each specimen between two sheets of thick white blotting paper, and then insert between the pages of a large heavy book, in order to press and flatten out your leaves.

It is as well to allow the leaves to stay in the press until such leisure time as will enable you to mount and arrange them in a collection. There are several ways of mounting leaves, but the simplest method is to carefully stick each leaf on a separate card and file it in a cabinet. Photographic mounts of a white colour are suitable.

(Continued on opposite page)



The Hazel
(Broad and Elliptical)



The Horse Chestnut.



The Sycamore.
(Lobed)



The Field Maple.
(Lobed)



The Lime.
(Heart-shaped)



Privet. (Broad and Lancet-shaped)



The Hornbeam.
(oblong)



The Elm.



The Alder.



The Laburnum



Notice the margins of these—entire, serrated and dentated

MONEY - MAKING WITH THE FRETSAW———A Reader's Method

THE way the use of the fretsaw can be turned to profit is well known by many readers. Here is the way it was done by W. G. Galer of Maida Vale, London, who in the course of a couple of years made and sold over 400 articles.

The article was written by Mr. Galer and is full of helpful suggestions which will undoubtedly be useful to many other readers. He has found it so profitable that he has had special notepaper done with "Fretworker and Woodworker" on the top—an excellent idea.

Mr. Galer's photograph taken with his League Certificate, appeared in these pages recently.

"I first took up Fretwork," says Mr. Galer, "about 12 years ago, and for some years contented myself with making small brackets, mirror frames, etc., all for the home. But it was not until January, 1932, that I started this work in earnest, having had the misfortune at this time to be thrown out of employment, like so many others, when a financial crisis overtook this country.

Well, I could not bear to see my hands idle; so speculating what few shillings I had, purchased some wood, stains and fretsaws, etc., and set about making up a few frames, various boxes, inkstands, and pipe racks.

After a deal of hesitation, I asked one or two friends if they would like to see my work. They were only too willing, and they, in turn, kindly offered to show them to their friends, and so between them best part of my first productions were sold.

Then after a short while a few enquiries came in from people who had been recommended by my friends and who had already seen a few samples of my work. This renewed my hope and gave me courage to carry on during these none too easy days.

It was about this time that I came across an old number of Hobbies Weekly (I believe it was dated October, 1931), in which there was a design of a teapot stand. At once noticing the usefulness and selling possibilities of such an article, I sat down to cut out three or four, and after completing them showed them to my friends as before. They were taken at first sight, and I was kept busy for a week or two afterwards.

Seeing the great help

Hobbies Weekly had been to me in this instance, I at once decided to get it every week, and can honestly say have never regretted my decision. Rather look back upon this time as a kind of turning point.

Another great selling line of mine is Doll's House furniture. Now, the great thing to do in finding a customer for these, is to make up a fairly large selection (Approximately 40 pieces were made at the start) all of different designs, and coloured up with various stains and enamels. Again, add cushions to suitable chairs or settees and put small transfers on tables, etc. Experience has taught me that the brightness of an article doubles its selling possibilities and value.

Another most important point is to be original. I myself have made up almost every piece of doll's furniture Hobbies have published. Here is a better method.

Practically every newspaper or periodical contains illustrations of almost every kind of household furniture.

Now if one is fairly good at drawing, what is easier than to plan out an exact miniature of these? Mention is made of a few that have been made in this way:—rocking chairs, fireplaces and screens, bookcases, gas fires, gas cookers, and even to model telephones.

Another very important point to remember if you are constantly making fretwork articles for sale is this; always keep account of what an article costs you; what you sell it for; and who you sell it to. Then at the end of a certain time you can reckon up and see what good the sales have done.

Again, if one keeps a note of customers, they can always circularise at Christmas or any other time for that matter, and introduce their latest production.

Above all, always put your best workmanship into everything you do, for even if the profit be small on some sales, you can rest assured you have given complete satisfaction, and that is the greatest asset of all.

Since commencing in 1932, I have made and sold over 400 articles, and the majority of my first customers still come to me when they are requiring either birthday or Christmas presents. Lastly, every worker should join the Hobbies League."

Cast - Iron Glue Kettle for 1/9

Many craftsmen believe that "glue pot" glue is still the best ever. Here, then, is Hobbies own make glue kettle offered at a bargain price. Snap it up NOW!

For One Week Only

**SPECIAL
BARGAIN!
OFFER!**

Postage
9d. extra



NOTE—You MUST use the COUPON on page 3 of cover.



REPLIES OF INTEREST

Letter Franking

WOULD you please let me know why franked envelopes are marked with a letter on left-hand corner of stamp, and a number on other corner? What does a Government stamp on an envelope marked "Paid. Bd." mean?—(R.P.M.)

THE N 50 refers to the device which is printed on the envelope, and is a method by which the P.O. can find out from where the letter was sent. Large offices have a machine which will print the device shown instead of having to stick stamps on each envelope, it is naturally quicker and cleaner. The machine is set so that it will mark so many letters, then the firm sends to the P.O. and they send round and set the machine for another series, the firm paying in advance for this number. There is a firm in this town which uses one of these machines and their number is N1. The 'Paid' query is a similar one. This time the firm takes all the letters to the P.O. and they count them, the firm pays the charge, but does not stick stamps on the letters, the P.O. simply print the device and the obliterating mark Paid, and the value.

Preventing Rusty Tools

WHEN I put my tools away in my workshop they get very rusty due to the fact that my workshop is damp. How can I fix my tools so they will not rust too much?—(L.R.A.)

THE question of dampness is always a difficult one to overcome. Really reliable rustproof solutions are expensive, but a homely preventative is the use of vaseline or thin oil rubbed over the bright parts of all metal tools. A very light coating of it is sufficient.

A Blister Raiser Wanted!

COULD you supply me with the name of a chemical, or how to make it, that blisters the skin when touched?—(S.J.B.)

THE first chemical to spring to the mind is Sodium Hydroxide, more familiarly known as Caustic Soda. This is a white solid that corrodes the skin and other animal matter. It may be purchased from any chemist, or may be made by treating a dilute solution of sodium carbonate with slaked lime. Carbolic Acid, if touched, also blisters and destroys the tissues of the skin, and the same applies to Nitric Acid, Spirits of Salts, etc. Caustic Soda is naturally injurious, whilst the Acids mentioned are regarded as dangerous chemicals. Should these latter come into contact with the eyes, for instance, it means instant blindness.

Boats in Bottles

SOME time ago an article appeared in *Hobbies Weekly* for putting a boat in a bottle. I made the attempt and was very successful, but as time went on found the glue caused a beard to form on the boat. I would like to make another, and seek the following information. As the parts of the boat were covered with thin celluloid (white) I want to know if your ivoryine would serve this purpose. The name of a glue that won't form a beard, and will dry inside the bottle. Can moisture be prevented from forming inside?—(J.C.W.)

THE exclusion of moisture from the bottle is best overcome by first heating the bottle (and so far as is practicable, all parts of the model), and then reheating it from time to time as the work proceeds. When the model is finished, leave the bottle in a warm dry place for a day or two for all internal moisture to evaporate. Finally, warm the bottle again, then cork it up and coat the cork with wax to ensure an absolutely airtight joint. The bottle can best be heated by placing it in hot dry sand. Do not use hot water or any moist substance for heating. Ivoryine is quite suitable for covering the hull, but it should be moulded as much as possible before fixing in place. The best glues for the purpose depend on

the parts to be fastened, but pure "Dextrine" (made by boiling starch), "Seccotine" and good Scotch Glue are all very reliable. Another excellent adhesive is made with a cellulose base and is characterized by a smell of "pear drops." One proprietary brand is sold by Hobbies Ltd. under the name of "Durafix."

Luminous Paint Ingredients

WITH reference to the preparation of luminous paint mentioned in *Hobbies*, let me know where to obtain the necessary ingredients (barium sulphate, white zinc sulphide, calcium carbonate and luminous calcium sulphide), as I have failed to obtain them in all local chemists?—(C.T.)

HERE are the names of three companies from which you should be able to obtain the supplies you require. The British Drug Houses, Graham St., London, N.1.; May & Baker Ltd., Garden Wharf Battersea, S.W.11., and May, Roberts & Co., Ltd., 7-13 Clerkenwell Rd., E.C.1.

Mathematics in Astronomy

IS the area of any of the planets found out by this formula diameter squared $\times 3.1416$, and how is the diameter and area of sun spots found out? I should be grateful to you if you could help me with this.—(C.W.)

ASSUMING the planets are strictly spherical, their surface would be found by the formula diameter squared, multiplied by 3.1416. The areas thus found would give the complete area of the outside surface all over the sphere. The area of one side only of a flat circle would be $\frac{1}{2}$ of this amount. The best way to determine the size of the sun spots is to work from photographs, using a planimeter which is a device for determining the area of irregular shaped figures. It must, of course, be known exactly to what scale the photograph is made.

MISCELLANEOUS ADVERTISEMENTS

The small "to sell" or "wanted" announcements appearing below are accepted from readers who want to sell anything except fretwork goods, or from usual advertisers of bargains of interest. The advertisements are inserted at the rate of 2d. per word. Name and address are counted, but initials or groups, such as E.P.S. or £1/11/6 are accepted as one word. Postal Orders and Stamps must accompany the order. We cannot guarantee any date for these to appear, but they will be inserted in the earliest issue.

PATENTING INVENTIONS. Advice free.—Kings Patent Agency, Ltd., 146H Queen Victoria Street, London, E.C.4.

GRAMOPHONES, Radiograms, Motors, Components, Repairs, 64-page list 2d. All 1935 Brands Radio, 70-page list 4d.—Regentho, 120 Old Street, London.

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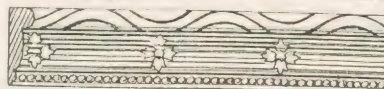
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HOW STAMPS CAN BE CANCELLED

THIS is an enormous subject. One about which books—and quite large ones at that—could be written, so obviously it is not possible to treat this subject fully in these pages. Yet all the average collector is likely to need will be dealt with as fully as possible. If we bear in mind the idea of a postmark, then the various types which

would normally give the postal authorities a very great amount of work if they had to hand postmark every letter.

To save their work the Belgian post office—also in some other countries, notably France—issue stamps already cancelled, and the term applied to this class is “Pre-cancelled.”

There are two methods of dealing with heavy mails in England. One way is, when the letters (unstamped but counted) are handed over the counter, the proper amount paid, then the post office instead of affixing adhesives puts the letters through a machine which prints on the covers an inscription such as ‘Paid 1½d.’ or whatever the amount should be.

A second method is by means of a machine which is kept by the firm but adjusted by the Postal authorities so it will stamp (print) a certain number of letters. When

so many Spanish stamps are seen with holes punched through them. This is the cancellation to show that they have been used for telegraphic purposes.

Now we come to a different group of cancelled stamps. When a country issues a new set of stamps there are various ways of disposing of the old ones which they must have on hand, and which are termed ‘Remainders.’

Sometimes these are sold to stamp dealers. Now if these old stamps are not allowed to be used for postage, these remainders are not true postage stamps and have to be cancelled.

Some countries do not do this—the stamp from Mauritius is one such “cancelled” stamp. The stamp from Labuan however is of another class. It is what is termed “Cancelled to order,” either to make them appear to philatelists as used copies or else to prevent their future use. Such stamps can be recognised by the fact that the postmark (apparent) consists of plain bars. That it is very nicely placed in the corner, and a better test still is if the stamp still has the original gum. If this is the case, then one may be certain that it has not been through the post.

The specimen from Costa Rica shows another method of cancellation, that of printing five horizontal bars across the stamp. But it also shows something else, just as, if not more interesting, namely that after having cancelled the remainder they wanted to use them after all. So they simply printed



Pen-cancelled.



Pre-cancelled.

are used will be more easily understood. “The main idea of a postmark is so to mark the stamp that it cannot be used again on another letter or parcel!”

There is an idea common among some collectors that if a stamp bears an ink mark it means that it is a receipt stamp. That is that the stamp in question is no longer a postage stamp (and therefore should not be in a collection), but that it has been fiscally used.

That idea is wrong! At Xmas time, when the postal authorities are very busy, we frequently receive Christmas cards in envelopes bearing stamps which have simply had an indelible pencil mark made upon them. Yet surely such a stamp is a postage stamp, though not of course a perfect specimen, and should not be kept unless it is unlikely that another specimen of the same stamp will ever come the way of that collector.

The illustration shows a stamp from Horta, obliterated by means of pen marks. Such a stamp (used postally) is termed ‘Pen-cancelled,’ and may take its place in any collection.

Now comes another kind of genuine postage stamp which perhaps looks ‘fishy’;—the very common Belgian stamps such as the one illustrated. The reason for their appearance is that large firms having a very extensive mail



Holed by the Telegraph.



Mauritius Cancelled.

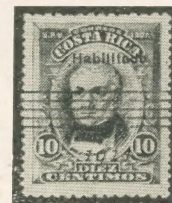
this number has been dealt with the firm have to send to the Post Office and have the machine re-set so it will deal with another specified number of letters, just as though the firm bought stamps to stick on their correspondence.

Should you ever have the chance to see one of these machines at work then take it—the speed at which it seals the envelopes and prints the postal payment on the letters is amazing. At the same time these machines frequently print an advertising slogan similar to the true advertising postmarks which are so common at the present time—“The Telephone saves Time,” etc.

Perhaps you have wondered why



Cancelled to order.

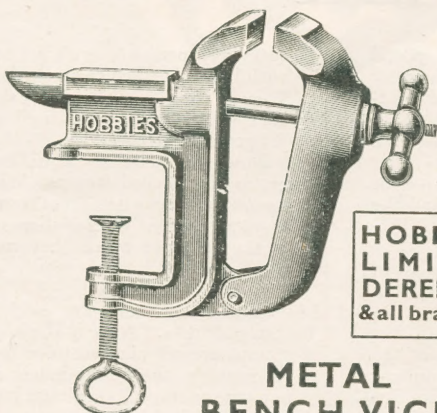


A Costa Rica Cancellation.

on top of the cancelled stamp the word “Habilitado,” meaning that, though at one time cancelled, it could again be used.

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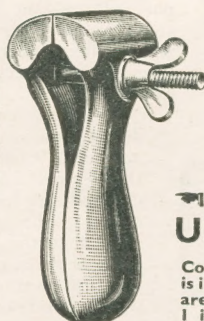
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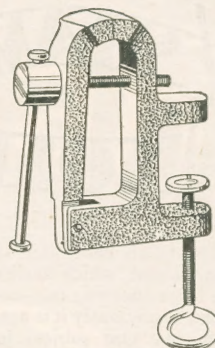
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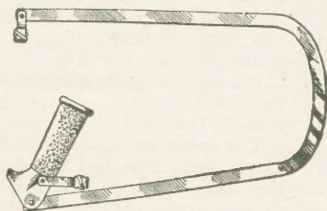
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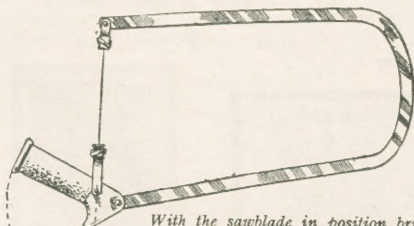
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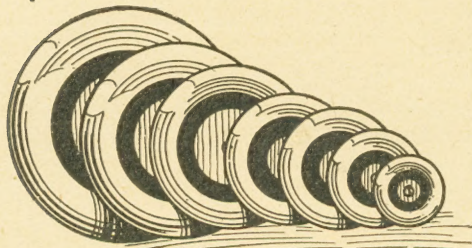
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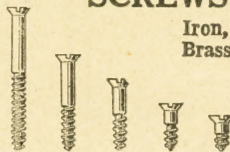
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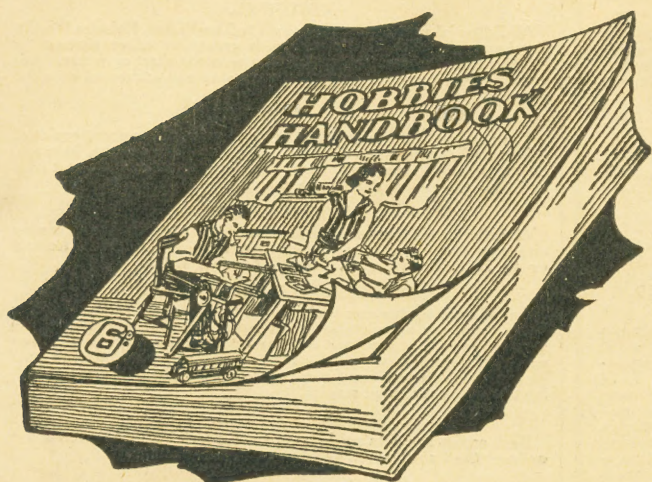
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